List of published clinical efficacy studies measuring plant stanol ester

This document includes references to all published clinical efficacy studies done with plant stanol ester. Scientific articles listed in bullet points are papers that report supplemental data from the same clinical study as the numbered article above them. A link to a full text is provided if available. Otherwise, a link to an abstract is provided. Articles that are not available online are marked accordingly.

Clinical efficacy studies (in alphabetical order):

1. Algorta Pineda J, Chinchetru MJ, Aguirre J, Francisco S. [Hypocholesteremic effectiveness of a yogurt containing plant stanol esters]. In Spanish. Rev Clin Esp 2005; 205: 63-66.
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2. Alhassan S, Reese KA, Mahurin J, Plaisance EP, Hilson BD, Garner JC, Wee SO, Grandjean PW. Blood lipid responses to plant stanol ester supplementation and aerobic exercise training. Metabolism 2006; 55: 541-549.
   Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/16546486

3. Andersson A, Karlstrom B, Mohsen R, Vessby B. Cholesterol-lowering effects of a stanol ester-containing low-fat margarine used in conjunction with a strict lipid-lowering diet. Eur Heart J Suppl 1999; 1: S80-S90.
   Not available online.

4. Athyros VG, Kakafika AI, Papageorgiou AA, Tziomalos K, Peletidou A, Vosikis C, Karagiannis A, Mikhailidis DP. Effect of a plant stanol ester-containing spread, placebo spread, or Mediterranean diet on estimated cardiovascular risk and lipid, inflammatory and haemostatic factors. Nutr Metab Cardiovasc Dis 2011; 21: 213-221.
   Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/19939653

5. Baumgartner S, Mensink RP, Husche C, Lütjohann D, Plat J. Effects of plant sterol- or stanol-enriched margarines on fasting plasma oxyphytosterol concentrations in healthy subjects. Atherosclerosis 2013; 227: 414-419.
   Link to full text: http://www.atherosclerosis-journal.com/article/S0021-9150(13)00047-6/pdf
   - Baumgartner S, Mensink RP, Hartog G, Bast A, Bekers O, Husche C, Lütjohann D, Plat J. Oxyphytosterol formation in humans; identification of high vs. low oxidizers. Biochem Pharmacol 2013; 86: 19-25. *Link to abstract:* http://www.ncbi.nlm.nih.gov/pubmed/23500537

- Baumgartner S, Mensink RP, Konings M, Schött H-F, Friedrichs S, Husche C, Lütjohann D, Plat J. Postprandial plasma oxyphytosterol concentrations after consumption of plant sterol or stanol enriched mixed meals in healthy subjects. Steroids 2015; 99, Part B, 281–286.
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6. Blair SN, Capuzzi DM, Gottlieb SO, Nguyen T, Morgan JM, Cater NB. Incremental reduction of serum total cholesterol and low-density lipoprotein cholesterol with the addition of plant stanol ester-containing spread to statin therapy. Am J Cardiol 2000; 86: 46-52.
   Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/10867091

7. Buyuktuncer Z, Fisunoglu M, Guven GS, Unal S, Besler HT. The cholesterol lowering efficacy of plant stanol ester yoghurt in a Turkish population: a double-blind, placebo-controlled trial. Lipids Health Dis 2013; 12: 91.
   Link to full text: http://www.lipidworld.com/content/12/1/91
   - Demirel ZB, Fisunoglu M, Güven GS, Ünal S, Besler T. Effects of yoghurt with plant stanols on serum lipid profile in patients with mild to moderate hyperlipidemia [in Turkish]. Beslenme Diyet Dergisi 2013; 41: 35-41.
     Not available online.

8. Brüll F, De Smet E, Mensink RP, Vreugdenhil A, Kerksiek A, Lütjohann D, Wesseling G, Plat J. Dietary plant stanol ester consumption improves immune function in asthma patients: results of a randomized, double-blind clinical trial. Am J Clin Nutr 2016; 103: 444-453.
   Link to full text: https://academic.oup.com/ajcn/article/103/2/444/4569379

9. Castro Cabezas M, de Vries JH, van Oostrom AJ, Iestra J, van Staveren WA. Effects of a stanol-enriched diet on plasma cholesterol and triglycerides in patients treated with statins. J Am Diet Assoc 2006; 106: 1564-1569.
   Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/17000189

10. Cater NB, Garcia-Garcia AB, Vega GL, Grundy SM. Responsiveness of plasma lipids and lipoproteins to plant stanol esters. Am J Cardiol 2005; 96: 23D-28D.
    Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/15992512

11. Chaiyodsilp S, Chaiyodsilp P, Pureekul T, Srisawas R, Khunaphakdipong Y. A Prospective randomized trial for reduction of serum low density lipoprotein (LDL) with plant stanol ester mixed in coffee in a hypercholesterolemic thai population. Bangkok Med J 2013; 5: 9-12.
    Link to full text:
    http://www.bangkokmedjournal.com/sites/default/files/fullpapers/TBMJ-Vol5-2.pdf

12. De Smet E, Mensink RP, Lütjohann D, Plat J. Acute effects of plant stanol esters on postprandial metabolism and its relation with changes in serum lipids after chronic intake. Eur J Clin Nutr 2015; 69: 127–133.
    Link to full text: http://www.nature.com/ejcn/journal/v69/n1/pdf/ejcn2014200a.pdf

13. Gylling H, Hallikainen M, Nissinen MJ, Miettinen TA. The effect of very high daily plant stanol ester intake on serum lipids, carotenoids, and fat-soluble vitamins. Clinical Nutrition 2010; 29: 112-118.
    Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/19709787

- Gylling H, Hallikainen M, Nissinen M, Simonen P, Miettinen TA. Very high plant stanol intake and serum plant stanols and non-cholesterol sterols. Eur J Nutr 2010; 49: 111-117.
  Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/19774436

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15. Gylling H, Halonen J, Lindholm H, Konttinen J, Simonen P, Nissinen MJ, Savolainen A, Talvi A, Hallikainen M. The effects of plant stanol ester consumption on arterial stiffness and endothelial function in adults: a randomised controlled clinical trial. BMC Cardiovasc Disord 2013; 13: 50.
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    - Hallikainen M, Halonen J, Konttinen J, Lindholm H, Simonen P, Nissinen MJ, Gylling H. Diet and cardiovascular health in asymptomatic normo- and mildly-to-moderately hypercholesterolemic participants – baseline data from the BLOOD FLOW intervention study. Nutr Metab 2013; 20: 62.
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    - Simonen P, Stenman UH, Gylling H. Serum proprotein convertase subtilisin/kexin type 9 concentration is not increased by plant stanol ester consumption in normo- to moderately hypercholesterolemic non-obese subjects. The Blood Flow intervention study. Clinical Science 2015; 129: 439-446.
      Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/25857271

16. Gylling H, Miettinen TA. Serum cholesterol and cholesterol and lipoprotein metabolism in hypercholesterolaemic NIDDM patients before and during sitostanol ester-margarine treatment. Diabetologia 1994; 37: 773-780.
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17. Gylling H, Miettinen TA. The effect of cholesterol absorption inhibition on low density lipoprotein cholesterol level. Atherosclerosis 1995; 117: 305-308.
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Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/12125225

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28. Hallikainen M, Sarkkinen ES, Gylling H, Erkkilä AT, Uusitupa MI. Comparison of the effects of plant sterol ester and plant stanol ester-enriched margarines in lowering serum cholesterol concentrations in hypercholesterolaemic subjects on a low-fat diet. Eur J Clin Nutr 2000; 54: 715-725.
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